

**Certificate in Allied Health Performed Ultrasound  
(CAHPU)  
Syllabus**

**Basic Early Pregnancy Assessment**

## CAHPU Basic Early Pregnancy Assessment Syllabus

### Purpose:

This unit is designed to cover the theoretical and practical curriculum for Basic Early Pregnancy Ultrasound.

### Prerequisites:

Learners should have completed the ASUM Physics Image Optimisation unit or accredited equivalent unit. This unit is suitable for midwives.

### Training:

Recognised either through attendance at an ASUM accredited Basic Early Pregnancy unit or equivalent.

### Assessments:

Learners are required to provide evidence of satisfactory completion of training sessions, supervised ultrasound scans and documentation in a logbook.

### Unit Objectives

On completing this unit learners should be able to:

- Demonstrate an understanding of the relevant anatomy and organ systems
- Demonstrate the ability to effectively perform early pregnancy imaging
- Confirm intrauterine pregnancy
- Confirm viability of pregnancy
- Identify and assess pelvic free fluid and clot, bleeding/hemorrhage
- Understand the limitations of ultrasound of organ system in diagnosis of early pregnancy problems
- Write a structured report or complete proforma report for early pregnancy assessment
- Have the clinical knowledge and ultrasound skill to be able to make appropriate management decision according to the clinical situation
- Understand the requirement for urgent formal scan and senior medical input in certain settings

### Unit Content

The unit will present learners with the following material:

### Anatomy, Physiology and Pathology:

- Vagina
- Cervix
- Endometrium
- Uterus
- Ovaries
- Bladder
- Bowel
- Normal pelvic organ appearance and variations
- Positioning of Uterus:
  - Anteverted
  - Axial
  - Retroverted
- Normal early pregnancy appearance
- Causes of bleeding and pain in early pregnancy
- Sonographic features of ectopic pregnancy:
  - Tubal and non-tubal
- Incidence and risk factors for heterotopic pregnancy

### Imaging of early pregnancy:

- Pelvic Imaging:
  - Identify pelvic free fluid and clot
- Imaging gestational sac:
  - In 3 planes
  - Definite signs of gestational sac (yolk sac, foetal pole)
  - Calculating gestation and estimating gestational age by measuring CRL
  - Imaging and measuring foetal heart rate using M-mode
- Able to write a structured report or complete proforma report for early pregnancy assessment
- Sonographic signs of non-viable pregnancy
- Sonographic signs of intra-abdominal bleeding
- Sonographic mimics of a gestational sac:
  - Pseudosac
  - Nabothian cyst

- Subendometrial cysts
- Sonographic signs of abnormal implantation
  - Cornual, scar and cervical ectopics
- Relation of ultrasound findings to threatened miscarriage, non-viable pregnancy and ectopic pregnancy
- Management of patients with pain and bleeding in early pregnancy
- Writing a structured report or complete proforma report for early pregnancy assessment

### **Techniques, Physical Principles and Safety**

Appropriate transducers, artifacts, windows, standard images, image optimisation and safety in the context of an early pregnancy scan.

### **Limitations and Pitfalls**

- Understand the limitations of trans abdominal pelvic ultrasound in diagnosis of early pregnancy problems:
  - If there is any uncertainty about diagnosis a timely TV scan should be scheduled
- Requirement for urgent formal scan and senior medical input in the settings of:
  - Haemodynamic instability
  - Severe pain
  - Moderate to large pelvic free fluid
  - IVF
- Misinterpretation of other cystic structures as gestational sac

### **Teaching Methodologies**

All training that include unit curriculum accredited toward the CCPU will be conducted in the following manner:

- A pre-test shall be conducted at the commencement of training which focuses learners on the main learning points.
- Each basic early pregnancy unit shall comprise at least 3 hours of teaching time on this unit, of which at least 1 hour shall be practical teaching. Stated times do not include the physics, artefacts and basic image optimization which should be provided if delegates are new to ultrasound.
- Learners will receive reference material covering the unit curriculum.
- The lectures presented should cover substantially the same material as the ones printed in this curriculum document.
- An appropriately qualified clinician will be involved the development and delivery of the

unit and training (they do not need to be present for the full duration of the training).

- The live scanning sessions for this unit shall include sufficient live patient models to ensure that each candidate has the opportunity to scan. Models will include normal subjects and patients with appropriate pathologies. Given that it may be difficult to find subjects with sufficient pathology, it is appropriate to include a practical 'image interpretation' session in which candidates must interpret images of the relevant pathology. If the latter are unavailable, there will be at least one image interpretation station with cineloops demonstrating the appropriate pathology. For interventional procedures, appropriate phantoms may be used.
- A post-test will be conducted at the end of a training that includes this unit as formative assessment.

## **Assessment and Logbook**

### **Formative Assessments**

- At least 2 formative assessments (directly supervised with suggestions and advice provided during the scan).

### **Summative Assessment**

- Summative assessment is to be performed by a suitably qualified assessor (see above) using the pro forma supplied at the end of this document (or equivalent if deemed sufficient by ASUM at their discretion). The original completed assessment is to be sent to ASUM with the candidate's completed log book.

### **Logbook Requirements**

- Complete 25 examinations within 2 years of completing unit training, at least 50% clinically indicated.
- At least 10 cases of Intrauterine pregnancy.
- At least 5 cases of viable intrauterine pregnancy (demonstrated by a fetal heart beat).
- At least 3 abnormal cases (eg. Pelvic free fluid, intra uterine death, ectopic, etc.).
- Findings should be validated by comparison with a "gold standard" (e.g. formal ultrasound, other imaging, pathological findings, etc).
- All cases are to be reviewed and signed off by a suitably qualified assessor (possessing a CCPU in the relevant unit, DDU, FRANZCR, DMU or equivalent, or be a sonographer registered by ASAR or NZ MRTB).
- Those cases that involve a procedural component must be signed off by a suitable assessor who performs those procedures themselves.

At the discretion of the ASUM CCPU/CAHPU Certification Board candidates may be allowed an alternative mechanism to meet this practical requirement.

**ASUM CAHPU Competence Assessment Form**  
**Basic Early Pregnancy Assessment Ultrasound**

Candidate: \_\_\_\_\_

Assessor: \_\_\_\_\_

Date: \_\_\_\_\_

Assessment type: Formative (feedback & teaching given during assessment for education)

Summative (prompting allowed but teaching not given during assessment)

To pass the summative assessment, the candidate must pass all components listed:

**Competent   Prompted   Fail**

**Prepare Patient**

Position  
Informed


**Prepare Environment**

Lights dimmed if possible

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**Probe & Preset Selection**

Can change transducer  
Selects appropriate transducer  
Selects appropriate preset


**Data Entry**

Enter patient details

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**Image Acquisition**

Optimisation (depth, freq, focus, gain)

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**Transabdominal Scan**

**Longitudinal View**

**Technique**    Tilts probe down into pelvis  
                     Fans through pelvis from side to side

**Competent   Prompted   Fail**


**Identifies**    Uterus in LS  
                     Position of uterus  
                     Endometrium  
                     Cervix  
                     Vagina  
                     Bowel  
                     Bladder  
                     Free fluid / where free fluid would collect  
                     Ovaries (if seen, not essential)


**If IUP Present**

**Identifies**    Sac (ideally can measure in 3 planes)  
                     Describe typical features of sac  
                     *Rounded, echogenic rim, intradecidual*  
                     Yolk sac  
                     Foetal pole  
                     Ideally can measure CRL  
                     Can demonstrate FHR  
                     Ideally can measure FHR with M-mode  
                     Use Preformatted Report to date gestation


**Transverse View**

**Technique**    Fans through pelvis from side to side

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**Identifies**    Uterus  
                     Endometrium


Cervix  
 Vagina  
 Bladder  
 Bowel  
 Free fluid / or where it would collect  
 Ovaries (if seen, not essential)


**Record Keeping**

Labels & stores appropriate images  
 Completes report  
*Each view adequate / inadequate*  
*Aortic Measurements*  
*Documents focussed scan only*

**Competent Prompted Fail**


**Machine Maintenance**

Cleans / disinfects ultrasound probe  
 Stores machine and probes safely and correctly


**For Formative Assessment Only:**

Feedback of particularly good areas: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Agreed actions for development: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Examiner Signature: \_\_\_\_\_ Candidate Signature: \_\_\_\_\_  
 Examiner Name: \_\_\_\_\_ Candidate Name: \_\_\_\_\_  
 Date: \_\_\_\_\_